

JPRS: 4352

24 January 1961

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-USSR-

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JPRS: 4352

CSO: 1342-S/a

## MORPHOLOGICAL CHARACTERISTICS OF ONCOLOGICAL DATA

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[Following is the translation of an article by  
L. Kh. Davydova, in Zdravookhraneniye Turkme-  
nistana, Vol IV, No 5, Sept-Oct 1960, pages 13-17.]

(From the Chair of Pathological Anatomy (Head Prof O. Ya. Rezhabek) of the Turkmenistan State Medical Institute imeni I. V. Stalin).

A statistical analysis of oncological bioptic findings and incidences of death from new growths has great practical significance, so that on the basis of the compiled data it is possible to make a few inferences as to the frequency of the different forms of tumors.

The co-workers of the Department of Pathological Anatomy have developed the actual data over a period of 15 years (from 1934 to 1950 E. E. Kenig) as well as data on sectional and bioptic material over a period of 7 years (1951-1957). An analysis was made of yearly statistical reports of the Patho-anatomical division of the Republic's clinical hospitals, as well as of the department of Pathological Anatomy and the Histopathological laboratory of the Republic's oncological dispensary.

During the past 7 years, 2,424 recorded dissections were studies; 13,746 tissue specimens of the patho-anatomical division and 1,621 from the laboratory in the oncological dispensary.

According to the data on the sections, 10.64% new growths were revealed during this period. This is a little more than the findings of V. A. Samsonov in the city of Ivanovo during the period between 1932-1951, and also more than those of I. V. Davydovskiy during 1928-1932 (8.05%) and P. P. Dvizhkov during 1946 (8%) in the city of Moscow (quoted by V. A. Samsonov).

Presented below in Table 1 is an apportionment of the principal kinds of tumors.

Table 1

Type of Tumor	No of cases	Total % of Tumors	Total % of Sections
Cancer	176	68.22	7.26
Sarcoma	8	5.1	0.33
Brain Tumors	23	8.91	0.95
Other malignant Tumors	13	5.04	0.53
Benign Tumors	38	14.73	1.53
Total	258	100.0	10.64

In the group of "other" malignancies are also included hypernephroma (Grawitz tumor) and lymphogranulomatosis (Hodgkins Disease).

If hypernephroma is to be included in the group of cancers, as V. A. Samsonov (city of Ivanovo) has done, and if benign tumors are to be excluded, which appear in the section, then malignant cancer is composed of 31.4%, sarcoma 3.62%, and brain tumors 10.4%. These numbers do not coincide with the data of other authors. According to the data developed by I. V. Davydov, cancer constitutes 83.07% of the new growths, which almost coincides with our data. Sarcoma then, according to I. V. Davydov, appears 2.2 times more than in our findings (8.05% against 3.62%), but brain tumors, on the other hand, are found more often in our data (10.45-7.64%).

The frequency of individual forms of tumors, which are a contributory cause of death, was compiled on a yearly basis in Table 2.

Table 2

YEAR	1951	1952	1953	1954	1955	1956	1957
TYPE OF TUMORS	No. of cases % of total sections	No. of cases % of total sections	No. of cases % of total sections	No. of cases % of total sections	No. of cases % of total sections	No. of cases % of total sections	No. of cases % of total sections
Cancer	19 4.5	23 6.9	19 5.8	30 9.3	33 9.7	25 8.2	27 7.0
sarcoma	- -	1 0.3	2 0.6	2 0.6	- -	2 0.6	1 0.2
other							
malig- nant tumors	1 1	2 0.6	1 0.3	- -	3 0.8	6 1.9	1 0.3
brain tumors	5 1.2	4 1.2	2 0.6	5 1.5	4 1.2	1 0.3	2 0.5

As indicated in Table 2, for the last 4 years there has been observed an increase in the number of deaths from cancer, particularly in 1954 and 1955. It was also pointed out by V. A. Samsonov in Ivanovo, and by Zelenskiy during the two post-war years, in the city of Khabarovsk (quoted by V. A. Samsonov).

The relative frequency of sarcoma and brain tumors is almost equal in all of the years indicated (in table 2).

Cancer is more frequently found in men (98 = 55.7%), than in women (78 = 44.3%). The most frequent occurrences of death, according to the data on sections, falls between the ages of 51-60. In second place stands the age group in the 50's, and third place - the age group in the 70's. At the same time, in the 50-year age group, according to our data, cancer is more frequently found in women, but in the 70-year age group, more frequently in men. There is analogous data noted by P. P. Dvizhkov in Moscow, I. V. Davydovskiy, and S. A. Kholdin and others. The affect of cancer of the stomach in women of an earlier age level is particularly and vividly presented in our data. Up to the age of 30, death from cancer of the stomach was not observed among men, at the time that 5 women in the age group from 21-30 died.

In Ashkabad during the past years, the most frequent lethal cases of malignant new growths were observed among people in the age groups from 41-50 years. These data show that the life span of man has increased, but the death of oncological patients was delayed for a decade.

Comparative data on the frequency of cancer of diverse localization up to 1950 and during the period from 1951-1957, are indicated in percentage, in table 3.

In table 3 it is seen that according to the frequency of cancer affliction, in first place was cancer of the stomach (31.8%), in second place - lung cancer (16.5%), in third place, cancer of the uterus (10.8%). However, this correlation changes, if we do not examine the data in summary. In women, cancer of the uterus stands in second place (10.8%), in third place, cancer of the lungs (4.0%), in fourth place, cancer of the esophagus (2.2%). Cancer of the liver, pancreas, and urinary bladder was found 2-4 times more often in men. In our data, cancer of the larynx is found only in men.

Table 3

Localization of Cancer	Data Up to 1950			Data During 1951-1957		
	Men	Women	Total	Men	Women	Total
Cancer of oral cavity	0.4	-	0.4	1.1	-	1.1
Cancer esophagus	3.6	1.9	5.5	5.7	2.2	7.9
" stomach	27.2	12.5	39.7	17.6	14.2	31.8
" intestine	9.6	1.1	10.7	1.7	2.8	4.5
" larynx	1.9	-	1.9	1.7	-	1.7
" lungs	7.2	2.3	9.5	12.5	4.0	16.5
" Uterus	-	13.7	13.7	-	10.8	10.8
" other female organs	-	0.8	0.8	-	3.5	3.5
" mammary glands	-	2.7	2.7	-	1.7	1.7
" skin	0.4	-	0.4	-	1.1	1.1
" liver	4.2	4.1	8.3	4.5	1.1	5.6
" pancreas	1.1	1.1	2.2	2.9	1.1	4.0
" urinary bladder	0.4	0.2	0.6	2.3	-	2.3
" prostate glands	1.2	-	1.2	3.5	-	3.5
" other organs	1.3	1.1	2.4	2.3	1.7	4.0
TOTAL	58.5	41.5	100.0	55.9	44.1	100.0

Sarcoma, lymphogranulomatosis, and hypernephroma are observed twice as much in men as in women. The number of deaths of men and women resulting from cancer of the nervous system is the same; 43.4% were in the age group from 31 to 50 years, which exactly coincides with the data of V. A. Samsonov.

Comparing our data with the data of E. E. Kenig, it is possible to note, that during the past 5 years death from cancer of the lungs has increased almost twofold (16.5% against 9.5%); death from cancer of the bladder has increased fourfold (2.3% against 0.6%) and from

cancer of the prostate glands threefold (3.5% against 1.2%). There was a slight increase in the relative frequency of death from cancer of the esophagus (7.9% against 5.5%), of the pancreas, at the time death from cancer of the stomach decreased (31.8% against 39.7%), of the intestine (4.5% against 10.7%), of the uterus (10.8% against 13.7%) and of the liver (5.7% against 8.3%).

In reviewing the records, several variable tumors were found in each of five cadavers.

A significant frequency of metastases of cancer was marked in different organs, although in comparison with the data of the past years their quantity decreased. Metastases were mostly observed in cancer of the stomach and of the lungs.

Agreement of clinical and patho-anatomical diagnoses was observed in 60.97% of the cases and variance in 39.03%; of these excessive diagnosis - in 7.73%, an incorrect finding of the localization of tumors in 5.69%, no new growths diagnosed in 17.07%, no definition of its characteristics in 2.03%, and, finally, an indefinite formulation of the diagnosis in 6.51% of the cases.

There was a variance primarily in cancer of the liver, the prostate glands, and the stomach. Better diagnoses were made of cancer of the oral cavity and larynx (an agreement of 100%), of the esophagus (80%), of the intestine (77.7%) and of the uterus (80%). Of sarcoma and lymphogranulomatosis there was agreement of the diagnoses in 53%, of hypernephroma in 50%. Benign tumors were diagnosed in only 12% of the cases. Apparently, this is explained by the asymptomatic course of their existence. In 54.1% of the cases, a diagnosis of brain tumor was made, in 45.9%, encephalitis or meningitis.

Study of the biopsied material gives the best conception of the quantitative and qualitative relationship of neoplasms. We have examined 15,367 tissue specimens and out of these were found 2,939 neoplasms which comprise 19.12% of all the specimens. Among all the new growths, cancer (including corio-epithelioma, beginning and metastatic forms) were found in 1,590 cases (54.1%), other malignant tumors 198 (6.7%), and benign 1,115 (39.2%).

The selection of bioptic and post-operative data shows that cancer afflicts people more often in the age group of 41-50. The same was observed with benign tumors. In other malignant new growths, the most affliction appears in the age group between 21-30 years. The morbidity rate of cancer in women is almost 2 times higher than in men, but the rate of benign tumors is three times higher. This occurs in the basic evaluation of affliction of the female genitals and mammary glands. As an example, cancer of the uterus is noted in 336 cases, in other female organs 53, chorio-epithelioma in 28, mammary glands in 108 - a total of 555 such cases. This indicates, according to our material, the predominant number of cancer afflictions found in women.

Fibroadenoma of the mammary glands, fibroma of the uterus and adenocystoma of the ovaries, constitute about 2/3 of the benign tumors found in women.

If, according to the sectional data, cancer of the uterus is seldom found, according to biopsies, it is frequently found (in first place) with the greatest affliction in people of the age group 41-50. In second place is cancer of the skin (349 cases), predominantly women, by a small margin; in third place is cancer of the stomach, without much difference as to quantity among either sex. But in women, cancer of the stomach shows up at a much younger age group than in men; (in women before the age of 30 cancer of the stomach was found in 4 cases, in men of this age group, cancer was not observed; in women from 31-40 years cancer was found in 9 cases, in men 5, which means almost two times less; after the age of 40, the correlation is reversed. In fourth place, is cancer of the mammary glands, that is, almost 1/3 of all cases occur in the 41-50 age group; in fifth place is cancer of the lips (in men it is found 3 times more frequently than in women, around half of all cases occur in the fifth decade of life. The same correlation is found in cancer of the larynx). Cancer of the lungs is found in men in the 41-50. Chorionepithelioma is found more frequently in the younger age groups (before the age of 30); after 50 it is not noticed.

Metastatic cancer, according to our data, is predominantly found in the lymph nodes, in cancer of the lips, as well as in cancer the mammary glands and stomach.

Among the other malignant tumors, in first place according to frequency is sarcoma; in second place is hemangioendothelioma, and in third place lymphogranulomatosis. Sarcoma is found more frequently in men (in all age groups up to 60). Hemangioendothelioma is found mostly in women up to 50.

In the group of "other benign tumors" are included the following: papilloma (during the past 2 years comprising 45% of the other benign tumors), fibroma, osteoma, myxoma, chondroma, and others. Among these, uterine fibroma, which is found in the age group 40-50, occupies a significant place (28.3%). According to frequency, angioma follows (more often in girls).

Fibroadenoma, of the mammary glands, comprises the larger portion of the adenoma group observed in women in the age group 21-40. Ovarian adenocysts comprise the majority in the adenocyst group, which afflicts women more frequently in the age group 40-50.

3.3% of the cases of oncological data are not listed by age distribution, due to the lack of information on the age group of the accompanying documents, which were sent to the laboratory.

### SUMMARY

1. An analysis of oncological data of the patho-anatomical division of the clinical hospital shows that the distribution of new growths, according to localization, sex and sectioned material coincides with the data of authors from the large cities in the U.S.S.R.
2. During the past years, the specific gravity of cancer of the lungs has increased to other locations.
3. According to autopsy findings, the specific gravity of cancer of the stomach, intestines and uterus, has significantly decreased.
4. An analysis of the section data, shows that during the past 7 years, the death of oncological patients takes place in significantly later periods. (on the average, by one decade).
5. The frequency of discovered metastases may indirectly indicate delayed treatment, which is dependent to an equal degree, on the late diagnosis and late treatment of the patient.
6. It is necessary to develop a vast anti-cancer program among the population masses, and to take all possible measures the earliest sign of malignant neoplasms.

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